

Application No.: 10/533,582

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REMARKS

The indication of allowable subject matter in claims 8, 9, 18, 34-39 and 41 is acknowledged and appreciated. In view of the following remarks, it is respectfully submitted that all claims are in condition for allowance.

Claims 13, 21, 22, 30-32, 40 and 42-44 stand rejected under 35 U.S.C. § 102 as being anticipated by Jin '582 ("Jin"). Claims 13, 21, 30, 31, 40 and 42-44 are independent. This rejection is respectfully traversed for the following reasons.

A. Claims 13 and 40

Claim 13 recites in pertinent part, an "accelerating part includes a plurality of electrodes *to which voltages with different phases are respectively applied*, and the accelerating part is configured *to accelerate* the electron beam by generating a moving electric field" (emphasis added). One exemplary embodiment of the present invention is illustrated in Figure 13 of Applicants' drawings, showing plural electrodes 302 with voltages having different phases being applied thereto to generate a moving electric field. According to one aspect of the present invention, the claimed configuration can make it possible to generate an electrode beam with high coherence, i.e., with the same speed and phase as the moving electric field, thereby enabling the beam spot size to be more easily reduced.

The Examiner's reliance on Jin is not understood. Indeed, it is respectfully submitted that Jin is completely silent as to a plurality of electrodes, let alone a plurality of electrodes to which voltages with different phases are respectively applied. Jin merely discloses a plurality of emitters 43 for outputting the E-beam which are *steered* electrostatically by a gate 21 (col. 5, lines 46-53). The Examiner appears to believe the plural, independently controllable gate sections can read on the claimed accelerating part.

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However, Jin is silent as to the gates 21 being electrodes let alone electrodes *to which voltages with different phases are respectively applied*. Moreover, Jin is further silent as to the gates 21 being configured to *accelerate* the electron beam *by generating a moving electric field*. Rather, as noted above, the gates 21 of Jin are simply configured so that an asymmetric electric field can be applied for steering the electron beam. Jin has no disclosed need or desire for effecting *acceleration* similarly to a linear particle accelerator in which an electron beam with the same speed and phase as the moving electric field can be realized, thereby enabling the beam spot size to be more easily reduced (as opposed to merely locating the beam as in Jin; compare Figure 13 of Applicants' drawings, with Figure 5 of Jin in which there are no disclosed details of an accelerator arrangement as claimed).

B. Claims 21, 31, 42 and 44

The Examiner relies on the x-ray generating metal 64 of Jin as the claimed shielding part. However, the metal 64 is not a shielding part as claimed. Jin discloses only that as "the e-beams from the cold cathode array hit the x-ray generating metal film 64, x-ray beams 63 are generated which pass through to reach the CD-ROM media 10." That is, Jin does not disclose that the e-beams are partly transmitted through the metal film 64. Rather, Jin suggests at best that the point at which the e-beams hit the metal film 64, a corresponding x-ray is generated on the opposite side thereof; or, on the other hand, if the e-beams pass through the metal film 64 then there is no shielding at all. Accordingly, Jin does not disclose a shielding part for partly transmitting, or which includes a plate member having a minute hole and configured to generate an electric field for causing the electron beam *to converge* and pass through the minute hole. According to the claimed configuration, control of a region irradiated with the beam can be

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ensured while easily increasing storage density (*see, e.g.*, page 14, line 7 – page 15, line 16 of Applicants' specification and Figures 15-16 of Applicants' drawings).

C. Claims 30 and 43

The Examiner alleges that col. 5, line 7 – col. 6, line 10 of Jin discloses "deflection parts and the convergence parts *are configured* to cause deflection and convergence of the electron beams emitted from the cold cathode electron beam emitting parts *in accordance with a common control signal* so that a plurality of bits of information is stored and read out at the same time in/from a plurality of regions of the storage medium." However, in direct contrast, Jin discloses a plurality of e-beam cells as shown in Figures 4-5 thereof where each e-beam cell respectively heads a different direction and is expressly disclosed in the cited portion of Jin as being controlled independently by a *different* control signal.

As anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed, either expressly or inherently (noting that "inherency may not be established by probabilities or possibilities", *Scaltech Inc. v. Retec/Tetra*, 178 F.3d 1378 (Fed. Cir. 1999)), in a single prior art reference, *Akzo N.V. v. U.S. Int'l Trade Commission*, 808 F.2d 1471 (Fed. Cir. 1986), based on the forgoing, it is submitted that Jin does not anticipate the independent claims, nor any claim dependent thereon.

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as the independent claims are patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are

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also patentable. In addition, it is respectfully submitted that the dependent claims are patentable based on their own merits by adding novel and non-obvious features to the combination.

Based on the foregoing, it is respectfully submitted that all pending claims are patentable over the cited prior art. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 102 be withdrawn.

CONCLUSION

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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